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OHIO DIVISION OF FORESTRY
In Cooperation With
U. S. Department of Agriculture - Forest Service,
CENTRAL STATES FOREST EXPERIMENT STATION

Technical Note 6

May 1, 1940

LOCAL VOLUME TABLE^{1/}

for
BLACK WALNUT
(*Juglans nigra*)
in Stark County, Ohio

INTERNATIONAL Rule ($\frac{1}{4}$ " kerf)

Merchantable Stem to a Variable Top Diameter

Diameter breast high outside bark (Inches)	Volume per tree	Average merchant- able length	Basis in trees	Diameter breast high outside bark (Inches)	Volume per tree	Average merchant- able length	Basis in trees
	Board feet	Feet	Number		Board feet	Feet	Number
10	23	9	4	21	304	42	1
11	31	14	9	22	343	43.5	2
12	42	19	8	23	383	45	2
13	57	22.5	7	24	425	46.5	-
14	75	26	6	25	468	47.5	-
15	101	29	5	26	513	49	-
16	130	31.5	7	27	558	50	-
17	162	34	3	28	604	50.5	1
18	195	36	7	29	650	51.5	2
19	230	38	4	30	698	52	1
20	266	40	4				

(1) Trees climbed and measured by personnel of Work Projects Administration Official Project 65-1-42-166 - "the Ohio Woodland Survey." Measurements taken at 12-foot log lengths above a 1.0-foot stump height. Scaled as 12-foot logs, and additional shorter top logs; top sections less than 8 feet in length scaled as fractions of an 8-foot log. Basis, 73 trees.

Table prepared, in 1939, by curving volume of merchantable length over d.b.h.

Aggregate difference: table is 0.75% low. Average percentage deviation of basic data from table, 28.5%.

(over)

A local volume table, as its name implies, is suitable for local use. At the same time, when site conditions and terrain do not change materially over a considerable area, county lines do not bound the locality where a table of this type may be of some utility. The general lack of volume tables for the many hardwood species in Ohio, as well as in the Central State region, places some value on almost any tabulation which assists in the estimation of tree volumes. This table provides volumes in board feet by the International rule (1/4-inch saw kerf) for trees with diameters at breast height (4-1/2) feet above the ground 10 inches and over as shown. These volumes are the average of trees on good, medium, and poor sites. Obviously, trees with longer or shorter merchantable lengths than those indicated in column 3 will contain a larger or smaller volume than those shown. The farmer or landowner who consults this table should approximate the merchantable lengths of the trees being estimated and compare them with those shown. This comparison will enable him to judge whether he should raise or lower these volumes.

These tree data are being analyzed to prepare an additional volume table to read in volume by diameter breast high and merchantable height by log lengths. This second table will provide a closer estimate of volume because of the addition of the factor of height. As additional tree data become available, they will be analyzed for differences in volume, and, if desirable, will be combined into tables with a broader base.

To use this table, measure the tree's diameter at 4-1/2 feet above the ground. Fractional inches should be rounded to the nearest even inch. The volume for the tree of this diameter on the average in Stark County, Ohio, is given in column 2. At the same time that the diameter is measured, estimate the length of the trunk which is merchantable or suitable for logs. Compare this estimate with the length in column 3. If shorter or longer, the volume in board feet will be lower or higher. There is no direct percent or rule-of-thumb method for making this correction. Judgment must be used.

O.D. Diller

L.F. Kellogg